MEASURING ACCESS TO CARE

NATIONAL GOVERNORS' ASSOCIATION

State Policy Reports

Health Studies

Strategies For Improving State Perinatal and Child Health Programs

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Strategies For Improving State Perinatal and Child Health Programs

by Laura Summer

Health Policy Studies
Center for Policy Research

National Governors' Association

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Executive Summary

Since the late 1980s, expansions and enhancements to state health care programs have increased the number of low-income women and children eligible for care. Many states have improved both the accessibility and quality of health services. Others have also begun to measure the impact of program changes and to determine whether women and children received needed health care services.

This report highlights some of the most successful methods states use to measure access to health care services for low-income women and children. The most successful methods are ones that involve the resources of multiple state agencies, including Medicaid and Maternal and Child Health.

States must respond to federal requirements to measure access. Yet many state officials recognize that health care coverage and delivery are likely to change significantly in the next several years. The challenge is to develop measures of access that will work not only for existing programs, but also for programs in a reformed health care system.

Measuring Access

States typically rely on two primary measures to assess access to care for pregnant women and children: the availability of health care providers and the utilization of health care services. Measures of health provider availability are good proxies for determining whether people are likely to get care, but these measures have some limitations.

- Efforts to use existing data on health care providers for program-specific purposes are impeded by gaps in the data.
- Changes in the way health care services are delivered pose challenges. Historically, studies of provider availability relied on counts of individual physicians. Increasingly, physicians are working with mid-level practitioners and in a greater variety of settings. If efforts are not made to count mid-level professionals and to reflect the capacity of clinics and other providers to deliver care, populations will appear to be less well served than they really are.
- Another change—the shift from traditional indemnity insurance plans to managed care plans—raises questions about the utility of examining provider availability to measure access to care. When patients enroll in managed care plans, they are assigned to specific practitioners. However, this does not guarantee that needed care is received.

A more accurate assessment of the availability of care may be determined if measures of provider availability are supplemented with measures of health care utilization. This would indicate whether people actually receive care. For pregnant women, data on the use of prenatal care are available through information collected on birth certificates. Fewer data on the use of health care services are routinely collected

for children. Nonetheless, the potential exists to use information about well-child care and other services in order to determine whether children have access to care.

Measuring the Availability of Health Care Providers

Data on the availability of health care providers are available from numerous sources in states, including state licensing boards, professional associations, state surveys, and offices of primary and rural health care. Yet officials still may encounter difficulties when they try to respond to specific Medicaid and Maternal and Child Health program requirements related to measuring provider availability.

States such as Minnesota and Washington are best prepared to respond to requirements for information on health care providers. They have established databases that house detailed information on health care professionals practicing in the state. Their single system can respond to a variety of data needs.

Measuring the Use of Health Care Services by Pregnant Women

Measuring the use of health care services among pregnant women may be relatively easy compared with measuring such use among other populations. Information on the number of prenatal care visits received is available from birth certificates in all states. Birth certificate data are limited primarily because the data are self-reported. Nonetheless, researchers most often use the birth certificate because it is the most effective and consistent tool currently available for measuring prenatal care service utilization. The adequacy of care can be determined by comparing information on the birth certificate with established standards for prenatal care.

States use different approaches to analyze the use of health care services by pregnant women.

- Detailed and timely information on the use of prenatal care services in Kentucky's local health departments is provided by an online service reporting system. The system also can be linked to the state vital statistics database.
- Vital statistics records in Missouri can be linked with records from programs such as Medicaid to create data sets that are used for evaluation purposes.
- In North Carolina maternity care coordinators, or case managers, work with pregnant women enrolled in Medicaid to ensure they receive needed care. Data from care coordinators' records can be used to track women's use of prenatal care services.
- Oregon conducted a comprehensive study of access to care. Several data sources were used to examine a broad range of factors that can affect access. Oregon also has the capacity to use a single data source—birth certificates—to collect program-related data on access to care.
- The First Steps database in the state of Washington was developed as part of a Medicaid-related initiative to improve access to care for pregnant women. It serves as a program monitoring tool and is used as a research tool to evaluate prenatal care programs.

Measuring the Use of Health Care Services by Children

Although little, consistent information currently is available on the use of health care services by children, several states are implementing systems to measure such care. Most of the systems measure the care that children enrolled in Medicaid receive. Notably, however, some systems include information about other children in the state. Many of these efforts have grown out of initiatives to improve the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program.

- In Florida a "treatment service report" flags emergency room visits made by children participating in the EPSDT program. Emergency room visits made for primary care services may indicate an access problem. EPSDT counselors work with the child's family to identify appropriate practitioners in the community who can provide primary pediatric care services.
- Kentucky's data system enables the state to estimate the number of children in need of immunizations and other specific preventive health care services.
- The Missouri Medicaid program is working to generate reports that link claims for EPSDT screening visits and claims for other services to provide a complete profile of the health care services that children enrolled in Medicaid receive.
- North Carolina is restructuring its EPSDT program. A new data system will include information on screening visits and on diagnostic and treatment services. The system should present a better picture of the patterns of service use by children enrolled in Medicaid.
- The Rhode Island Children's Access Program has an automated database that serves as a central registry for all births in the state and can be used to track preventive health services for children.
- Efforts are underway in South Carolina to develop and link a new EPSDT information system, a comprehensive child health tracking system, and an immunization database.
- The Washington Medicaid program is attempting to identify areas where children have problems getting dental care. The effort is particularly noteworthy because it involves collaboration among many state programs and because it uses several measures to assess access to care.

Conclusion

States have the opportunity to develop systems to measure access that not only respond to existing program requirements, but also can respond to state or federal reforms of the health care system. In developing new efforts to measure access to health care for low-income women and children, states should consider incorporating innovative features of current efforts.

- When several factors influencing access are measured, it is likely that the access problems, as well as the causes of those problems, can be identified.

- The establishment of a health professions database provides a single data source that can respond to a variety of information needs.
- Access measures that are population-based, rather than program-based, have the potential to capture the overlap in program services. Such measures can also help identify women and children who need services but who do not participate in available programs.
- Data on the use of prenatal care services are readily available from birth certificates and can be used to assess access to care in all states.
- Existing data systems can be integrated and expanded to provide more comprehensive information on children's use of health care services.
- Collaborative efforts to measure access enable states to pool the expertise and resources of different programs. Moreover, when program officials share data, they are likely to work together to solve identified problems.

At a time when resources to provide health care services to low-income populations are limited, it is important to assess whether efforts to provide care are effective. Appropriate access to care is particularly important for pregnant women and children. Many states are working to develop measures of access to care. Many opportunities for collaboration exist, especially between Medicaid and Maternal and Child Health programs, to develop systems for routinely measuring access to obstetrical and pediatric services.

1. Introduction

Since the Omnibus Reconciliation Act of 1986 (OBRA-86) first gave states the option to delink eligibility for health services from eligibility for cash assistance, they have made rapid progress in expanding and enhancing their perinatal and child health programs. Efforts to improve both the access and quality of services provided through Medicaid have been implemented in every state. More recently, interest in assessing whether pregnant women and children have been successful in accessing the critical preventive and primary care services they need—and to which a growing number is entitled—has grown at both the state and national levels.

Most states measure access to care so they can plan for the delivery of services or the distribution of resources. In addition, all states must respond to program-specific federal mandates to measure access to health care services for women and children.

State Medicaid programs must respond to a provision in the Omnibus Budget Reconciliation Act of 1989 (OBRA-89) that seeks to ensure that women and children with Medicaid coverage have access to obstetrical and pediatric care. The law requires state Medicaid agencies to demonstrate that Medicaid payment rates for obstetrical and pediatric services are sufficient to enlist enough providers so care is available to Medicaid beneficiaries at least to the extent that such care is available to the general population.

State Maternal and Child Health (MCH) programs also must respond to requirements contained in OBRA-89. Every five years, they are required to conduct a statewide assessment to determine the health care service needs of low-income women and children. Annual applications for block grant funds must include a description of how the MCH program will use program resources to respond to the needs identified through the assessment. In addition, states must submit annual reports on MCH program activities. Specific parts of state needs assessments, program applications, and annual reports include data on access to health care services for low-income women and children.

Although the mandates were well-intentioned, states have encountered significant problems in responding to them. In some cases, the required data are not available or are difficult to collect or analyze. Some states have developed their own methods for collecting and using data on access, but these methods do not always conform to the Medicaid and MCH program requirements.

This report highlights some of the most successful methods states use to measure access to health care services for low-income women and children. The most effective and efficient efforts are those with a focus on examining access to care for all women

and children in the state rather than for participants of specific programs. Generally, they are collaborative actions involving Medicaid, Maternal and Child Health, and other state programs.

It is hoped that state officials will glean from the descriptions of state initiatives practical information on how other states have successfully developed measurement systems. The report also should be useful to policymakers as they determine what information related to access state programs can be reasonably expected to provide. Finally, the report demonstrates that different approaches can be used effectively to measure access to care.

Although states are concerned with responding to existing mandates, many state officials recognize that health care coverage and delivery for low-income women and children have changed considerably over the past few years and will likely change even more radically in the next several years. The challenge is to develop measures of access that will work not only for current programs, but also for programs in a reformed health care system.

The information contained in this report is based on conversations with state program officials in twelve states and a review of materials provided by those officials. States were identified by staff at the National Governors' Association and representatives of other organizations and agencies who routinely work with state Medicaid, Maternal and Child Health, and related programs. The report describes the activities of nine states that represent some, but by no means all, of the most successful efforts to measure access to care. An appendix contains the names, addresses, and telephone numbers of contacts for all of the programs highlighted in the report.

Traditional methods for measuring access to care are discussed in Chapter 2. In Chapter 3, the focus is on how to measure the availability of health care providers. The use of data on prenatal care services to measure access to care for pregnant women is described in Chapter 4. To date, much more has been done to examine care for pregnant women than care for children, but some states are using data on health care services to assess access to care for children. This topic is explored in Chapter 5. Chapter 6 presents the report's conclusions.

2. Measuring Access

States rely primarily on measures of provider availability and health service utilization to assess access to care for women and children. These are the measures for which data are most readily available, though some states still lack consistent and reliable data sources. In particular, sources that provide information about counties or smaller defined areas of the state seem to be elusive in a number of states.

Provider Availability

Often the first step in measuring access to care is to examine the availability of health care providers. This approach is appealing for several reasons. First, some data on health care professionals are available in all states. Second, there is a clear relationship between the availability of practitioners and the receipt of health care services. The lack or shortage of providers in particular areas of a state indicates that residents are likely to have difficulty obtaining health care. States have tried to address this problem through a variety of strategies. For example, they have attempted to recruit and retain providers through loan forgiveness programs, increased reimbursement rates, and enhanced employee benefits packages.[1]

OBRA-89 requires Maternal and Child Health and Medicaid programs to report on the availability of providers. MCH programs must identify licensed obstetrical and pediatric practitioners in the state. Medicaid programs must demonstrate that Medicaid-eligible women and children have access to obstetrical and pediatric services at least to the same extent as the general population. In complying with this requirement, most states have chosen to compare the number of providers participating in the Medicaid program with the number of providers in the state.

Efforts to use existing data on health care providers for program-specific purposes are impeded by gaps in the data. Information about practitioners' specialties often is missing. Moreover, in many states information about where and how much providers practice is not easily determined. Data on the distribution of practitioners are scarce, making it difficult to document potential geographic or transportation barriers to care.

Recent changes in the way health care services are delivered also pose challenges for collecting and analyzing data on practitioners. Historically, studies of provider availability relied on counts of individual physicians. Judgments about the adequacy of the supply were based on physician-to-population ratios. Increasingly, however, physicians are working with mid-level practitioners such as physician assistants, nurse practitioners, and certified nurse midwives to provide care. Also, they are working in a

greater variety of settings than ever before. There are fewer individual private practices and more group practices.

Moreover, many states report that a significant proportion of the primary care low-income women and children receive is delivered in alternative delivery settings such as public health clinics, community and migrant health centers, and outpatient hospital clinics where physicians and mid-level professionals work together. For example, North Carolina found that in 1991, only 28 percent of pregnant women with Medicaid coverage received care through office-based physician practices. Most of these women were served through public health clinics, community and migrant health centers, and hospital-based clinics. There is no established methodology for judging the capacity of such clinics to deliver care. Yet if efforts are not made to count mid-level professionals and to reflect the capacity of clinics to deliver care, populations will appear to be less well served than they really are.

Another change—the shift from traditional indemnity insurance plans to managed care plans—raises questions about the utility of examining provider availability to measure access to care. Concerns about provider supply are eliminated when patients enrolled in managed care plans are assigned to specific practitioners. However, assignment does not guarantee that patients will see the practitioner or receive the care they need. Different measures are needed to assess whether those enrolled in the plans have access to care.[2]

Health Service Utilization

Although measures of health provider availability are good proxies for determining whether people are likely to get care, health care utilization measures reveal whether they actually receive care. Health service utilization measures are based on population-specific data. For pregnant women, data on the use of prenatal care are readily available. Fewer data on the use of health care services are collected for children. Nonetheless, the potential exists to use information on well-child care and other health services that children receive in order to determine whether they have access to care.

Utilization measures offer many advantages when trying to assess access to health care. One advantage is they can be used with established standards to determine not only whether women and children receive care, but whether they receive adequate care. For example, in the case of pregnant women, well-established recommendations indicate that care should begin in the first trimester of pregnancy and that a certain number of visits should be made throughout the pregnancy. For children, periodicity schedules prescribe a certain number of age-specific well-child visits and indicate when preventive measures such as lead testing or immunizations should occur.

Another advantage is data on health service use can be analyzed to identify particular groups—such as racial or ethnic groups or women and children in certain age groups—who do not receive care. The analyses can cut across geographic boundaries and provide information that otherwise might not be available. The data may show that even in areas with adequate numbers of health care providers, some residents do not receive the care they need.

Moreover, because utilization data are patient-based rather than provider-based, problems associated with categorizing and counting providers are eliminated. The data also can be used effectively to measure access to care for women and children enrolled in managed care plans.

Although health utilization measures provide a number of advantages, data on the use of health care services have some limitations. One limitation is access problems often are identified "after the fact." For example, data on the use of prenatal care generally come from birth certificates. If problems are identified when the data are analyzed, measures to improve access to prenatal care will come too late to help the women who already have given birth. A few states have developed systems that provide more timely data, but most must rely on the retrospective data from birth certificates. Nonetheless, if the data are analyzed on a routine basis and steps are taken to correct problems, other women and children will benefit.

Another limitation is though utilization data can help identify an access problem, the causes of the problem may not be apparent. Consequently, efforts to improve access will be more successful if states use a combination of access measures.

Health Status Measures

Data on the use of health services do not indicate whether care is adequate. The adequacy of care may be judged by comparing utilization data with established standards for prenatal care or well-child care. Another option is to use health status measures to make determinations about the adequacy and quality of care that mothers and children receive.

For pregnant women, analyses that combine birth outcome data and data on the use of prenatal care make it possible to assess whether women received necessary health care services. Data on the health status of children are much more difficult to collect and analyze. Yet, in the absence of established standards for child health care, such data can be an important source of information about access. For example, service utilization data may indicate that a group of children visits practitioners infrequently. Although one explanation may be the children are healthy and not in need of services, another possibility is they need care but are not receiving it because practitioners are not available. Data on the health status of the group can show which situation the low utilization rates reflect.

Health Insurance Measures

One of the most important factors to examine in measuring access to care is health insurance. Those who are uninsured are likely to have difficulty getting the care they need. With expansions in the Medicaid program, health care coverage has been extended to a substantial number of low-income pregnant women and children. Although health insurance is a very important access measure, it is not featured in this report because the study primarily concerns the population that is or soon will become eligible for Medicaid. Women and children enrolled in Medicaid obviously have health care coverage so it is more appropriate to examine other access measures for this population.

However, even among the Medicaid population, health insurance measures should not be discounted completely. It is important for state Medicaid programs to identify women and children who are eligible for coverage but who have not enrolled in the program. Outreach efforts are more effective when they are targeted.

Summary

There are a number of measures states can use to assess access to care. Ideally, efforts to examine access will take as many factors as possible into account. States already use a variety of methods to measure access to care, and they are working to improve those methods.

3. Measuring the Availability of Health Care Providers

Different state agencies and programs are involved in efforts to document the availability of health care practitioners. For example, most state health departments determine provider availability and designate provider shortage areas. In response to federal requirements, both the Medicaid and Maternal and Child Health programs must demonstrate that health care services are available for low-income women and children.

Data on the Availability of Providers

An ideal state profile of primary care providers for women and children would include information on all types of clinical practitioners. Physicians would be identified by specialty, including obstetricians, pediatricians, family practitioners, and general practitioners. Mid-level providers such as nurse practitioners, nurse midwives, and physician assistants also would be counted. A variety of practice settings such as offices, clinics, and hospitals would be examined. Information about the geographic area that practitioners serve would be included in addition to information on whether they accept patients with Medicaid coverage and care for uninsured patients.

Unfortunately, such detailed information about health care providers seldom is available. Moreover, data that are available often come from several sources, some of which may be incompatible.

State Licensing Boards. It is relatively easy to obtain a list of licensed health care professionals from state boards. However, the records the boards maintain generally are not sufficiently detailed to show whether there are an adequate number of providers in different areas of the state. For example, in the case of physicians, information about their specialties often is not included. It is frequently impossible to differentiate between practitioners' home and work addresses. In addition, many practitioners work at more than one site, which is not reflected in the records.

There may be other problems with licensing data. It may not be possible to determine whether the physicians are practicing or retired, whether they are involved in clinical, academic, or administrative activities, and whether they restrict their practices. For example, many obstetricians-gynecologists provide only gynecological services. To provide an accurate account of provider availability, it is necessary to supplement the records of licensing boards with other data.

Professional Associations. Information about physicians' specialties may be available from lists of members maintained by professional associations such as the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics. However, because these organizations represent board-certified physicians,

they include only a portion of the practitioners providing obstetrical and pediatric care in states. Moreover, the lists have many of the same shortcomings as the licensing records. For example, it is not always possible to determine how and where individual physicians practice.

Additional information about members' practices may be available from surveys conducted by the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics. These groups survey members periodically to determine whether they provide services to patients with Medicaid coverage and to other low-income women and children. Members are also asked about factors that might discourage them from participating in Medicaid. Although the surveys are national in scope, state-specific information may be available for some of the larger states.

Researchers at the American Academy of Pediatrics also examine the availability of child health providers by calculating, for each county, a ratio of children per provider. The ratios are calculated every two years. They may be helpful in identifying areas of a state where children are likely to have access problems.

Information on child health providers comes from a database compiled by the American Medical Association. The database contains detailed information on physicians practicing in the United States, including physicians' specialties and their participation in activities such as research, administration, or patient care. Much of the information is available on the county level.[3] One drawback is it is not always possible to distinguish between physicians' residence and place of practice. In addition, because all physicians are not surveyed annually some of the information may not reflect conditions to date.

State Databases. A few states are developing databases that contain detailed information on health care professionals practicing in the state. A 1992 mandate from the Minnesota Legislature directed the health department to establish a health professions database. The responsibility for establishing the database lies with the office of rural health, which works closely with state registration and licensing boards.

As part of the annual relicensing process, physicians practicing in Minnesota are now required to complete a two-page questionnaire. They must identify their specialties and indicate whether they are involved in clinical, academic, administrative, or other types of activities. Questions about their place or places of practice are included, and they are asked to indicate the number of hours they see patients at each location.

Similar information is required of mid-level providers, including physician assistants, nurse practitioners, and certified nurse midwives, when they apply to renew their licenses. Also housed in the database is information on registered nurses, licensed practical nurses, dentists, dental hygienists, dental assistants, physical therapists, and respiratory care practitioners. Occupational therapists will be included when their registration is implemented. Other professions will be included as resources allow.

In developing the questionnaire, the office of rural health worked with Medicaid and other health department programs to ensure that the database could be used to satisfy program reporting requirements. As a result, the state has a single system that can respond to a variety of information needs.

The state of Washington also has developed a survey form that health care professionals must complete when they renew their licenses. The survey responses will provide detailed information on practice specialty and location. The findings also will be used to establish and update a health professions database.

State Surveys. Special surveys have been used to provide detailed information on health care providers in some states. For example, a 1991 report, *The Status of Maternity Care in Oregon: A Descriptive Study*, is based in part on the results of a survey of obstetrical care practitioners in the state. The report was prepared by the state office of rural health located at Oregon Health Sciences University (see Assessing Provider Availability in Oregon).

The study was divided into two parts. The first focused on the characteristics of pregnant women in the state and their infants. The second concerned the characteristics of practitioners who provide maternity care in all regions of the state. Data from state licensing records were supplemented with survey data indicating whether the physicians accept obstetrical patients. The survey responses also indicated whether physicians who provide maternity care accept patients with Medicaid coverage or patients who have no health insurance.

Most of the report describes physicians, but some data on certified nurse midwives and other nonphysician practitioners are included. Health care facilities also are described. Both the site of prenatal care and the site of delivery are discussed. In determining whether providers were available to care for women, geographic and climatic barriers and their impact on travel distances and times were taken into account.

Although such a survey may be difficult and expensive to conduct, it provides a wealth of information about obstetrical care providers. It demonstrates where and how resources can be used best to address access problems. The baseline data such a survey provides also indicate which factors should be measured in subsequent years.

Health Professional Shortage Area Designations. One measure that attempts to account for the number and geographic distribution of available health care providers is the health professional shortage area (HPSA). The HPSA designation is used by the U.S. Department of Health and Human Services (HHS) in its administration of the

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Much useful information can be obtained from special state surveys of health care providers. For example, Oregon conducted a survey of obstetrical care practitioners and found that in 1990, slightly less than a third of obstetricians (31.5 percent) and just below half of family practitioners (47.9 percent) accepted Medicaid patients without restrictions. Some 53 percent of obstetricians and 44.9 percent of family practitioners accepted Medicaid patients on a restricted basis. Women with no coverage did not fare as well. Only about one-fifth of obstetricians (21.7 percent) and family practitioners (21.5 percent) reported taking uninsured patients without restrictions. Slightly more than 60 percent of obstetricians and family practitioners accepted uninsured patients on a restricted basis.

National Health Service Corps, a federal program that places practitioners in underserved areas across the nation.

Specific geographic areas, population groups, or public or nonprofit health care facilities that are not served by enough primary care health professionals are designated as HPSAs. For designation purposes, primary care physicians include family and general practitioners, general pediatricians, obstetricians-gynecologists, and general internists. To receive a HPSA designation, states must submit specific information to HHS, including the number of primary care physicians and the size of the population in specific areas. Some states use the HPSA designations or similar state-defined designations for other purposes, such as allocating state resources for health care services, developing state grant and loan programs, or planning provider recruitment and training efforts.

The office charged with collecting and analyzing information about shortage areas differs among states. Some states have special shortage designation offices, while in others the function is performed by the state office of rural health or the office of primary care.

Bureau of Primary Health Care Cooperative Agreements. Data on the availability of primary care providers may also be available from state agencies that administer cooperative agreements with the federal Bureau of Primary Health Care. The purpose of these agreements is to promote the development and provision of primary care services for underserved populations.

State agencies administering the cooperative agreements must develop county-based primary care access plans. Each plan must include descriptions of the primary care services available to low-income residents in the state and recommendations for additional or new resources needed to improve the delivery of primary care. The plan must be developed in conjunction with the state's primary care association, an independent, statewide group that represents community-based primary care providers such as community and migrant health centers.

There is wide variation among states in the activities associated with cooperative agreements. One reason is priorities are established and activities are tailored to reflect the health care needs in the state. Another reason is the level of resources devoted to activities related to promoting primary care varies. The entity within state government selected to administer the cooperative agreement also has some bearing on the activities pursued. A report on cooperative agreements prepared by the Association of State and Territorial Health Officers identifies two types of programs—office of rural health programs and Maternal and Child Health programs—that often influence the areas of emphasis in cooperative agreements.[4]

Program-Specific Requirements to Document the Availability of Health Care Providers for Women and Children

Provisions in the Omnibus Budget Reconciliation Act of 1989 require state Medicaid and Maternal and Child Health programs to collect information on the availability of health care providers. The specific requirements for the two programs differ, but in

each case the programs are expected to use the data to determine where provider shortages exist and to take measures to correct access problems caused by the shortages.

State Responses to the MCH Program Requirements. Since 1990 state Maternal and Child Health programs have been required to provide information on the number of specific types of health care providers licensed in the state. These include obstetricians, family practitioners, certified family nurse practitioners, certified nurse midwives, pediatricians, and certified pediatric nurse practitioners.[5]

When states submitted the first set of reports, many officials commented that licensing records provide very limited information on the availability of health care services for women and children. The officials noted that the records often do not include information on physician or nurse specialties. The records also lack information on the geographic distribution of providers, the extent to which providers engage in clinical practice, and the extent to which their services are available to low-income patients.[6]

Some state MCH programs collect more detailed information. For example, as part of routine operations, each year the Kentucky Division of Maternal and Child Health obtains an up-to-date list of all obstetricians and family practice physicians from the Kentucky Board of Medical Licensure. Each local health department is then contacted and requested to verify whether the listed physicians actually practice obstetrics and, if so, whether they serve Medicaid patients. This information is used to identify areas where low-income women may have difficulty finding prenatal care providers. The division works with health departments, physicians, and hospitals to help identify providers for underserved areas.

Collaborative efforts between state MCH programs and the agencies administering cooperative agreements to promote primary care also result in more complete information on the availability of providers. For example, in response to the survey conducted by the Association of State and Territorial Health Officers, the cooperative agreement agency in Connecticut reported that it works with the MCH program to conduct primary care planning activities and participates in the preparation of the reports and plans the MCH program must submit.

The Minnesota Office of Rural Health has the contract for the cooperative agreement and prepares the required annual primary care access plan. The maternal and child health bureau routinely uses information from the plan to satisfy reporting requirements. With the establishment of Minnesota's health professions database in the office of rural health, the MCH program will have access to even more detailed information.

State Responses to the Medicaid Program Requirements. State Medicaid programs must ensure an adequate number of providers to serve the Medicaid-eligible population. This requirement reflects the fact that access to care for women and children with Medicaid coverage is determined not only by the availability of health care providers in particular areas, but also by whether the providers are willing to treat Medicaid patients.

OBRA-89 requires state Medicaid agencies to demonstrate that Medicaid payment rates for obstetrical and pediatric services are sufficient to enlist enough providers

so care is available to Medicaid beneficiaries at least to the extent that such care is available to the general population. The Health Care Financing Administration (HCFA) has not yet issued regulations to implement the statute. Federal guidance on how states can comply with the statute was issued in March 1990.[7]

As state Medicaid agencies try to satisfy the requirements and to collect and analyze data for related purposes, they must address some technical, program-specific questions. In particular, they must find ways to account for patient volume, the scope of services provided, the practice setting, and geographic differences.

Accounting for Volume. One approach to measuring provider participation is to count the number of practitioners enrolled in the Medicaid program. This quantifies the pool of providers, but it does not account for the volume of patients they see. States use different methods to assess practitioners' level of program participation (see Assessing Providers' Medicaid Practice in South Carolina, Tracking Provider Participation in Washington, and Examining Levels of Payment in North Carolina).

For example, in South Carolina providers are grouped according to the number of Medicaid beneficiaries they treat annually. Rhode Island categorizes obstetrical providers according to the number of deliveries they perform. Medicaid claims data for a twelve-month period are classified according to whether Medicaid paid providers for no deliveries, fewer than 10 deliveries, 10 to 100 deliveries, or more than 100 deliveries. Reports from the state of Washington state indicate the number of infants

ASSESSING PROVIDERS' MEDICAID PRACTICE IN SOUTH CAROLINA

South Carolina groups providers according to whether they see more than 100 Medicaid beneficiaries, 25 to 100 beneficiaries, fewer than 25 beneficiaries, or no beneficiaries. In fiscal 1990, about 85 percent of the pediatricians in South Carolina were enrolled in Medicaid, but only about half of them (48 percent) saw more than 100 beneficiaries. About 90 percent of the obstetricians participated in Medicaid, but just 40 percent of them saw more than 100 Medicaid patients during the year.

TRACKING PROVIDER PARTICIPATION IN WASHINGTON

Washington tracks provider participation over time by comparing the number of practitioners participating in Medicaid with the number of deliveries the Medicaid program pays for each year. Through this system, the state has been able to document an increase in the ratio of practitioners to deliveries each year since 1987. In 1987 about 915 providers delivered an average of 18 babies whose births were paid for by Medicaid. By 1992 the number of providers had increased to 963 and the average number of deliveries to 30.

EXAMINING LEVELS OF PAYMENT IN NORTH CAROLINA

The North Carolina Medicaid office examined payments to different types of providers during a six-month period. The data show that for each specialty, a relatively small number of practitioners provides most of the care for Medicaid beneficiaries. For example, about 46 percent of pediatricians participating in Medicaid received less than $1,000 for care they provided to children with Medicaid coverage. About 28 percent of these physicians were paid between $1,000 and $10,000. Just about one-quarter of the pediatricians (26 percent) provided enough care to earn more than $10,000 in a six-month period.[8]

delivered by obstetrical care providers in each county. North Carolina uses another method to measure the volume of patients. The state categorizes the level of payment Medicaid providers receive.

Accounting for the Scope of Services Provided. Another consideration is whether practitioners provide all the services Medicaid beneficiaries need. For example, in the case of pregnant women, some obstetricians will deliver babies at the hospital but will not provide prenatal care in their offices. Some pediatricians see Medicaid patients but do not provide the preventive services to which children are entitled through the Medicaid EPSDT program.

Accounting for Practice Setting. Medicaid programs must report on the participation of specific types of obstetrical and pediatric service providers. For obstetrical care, these are obstetricians, family practitioners, certified nurse midwives, and certified nurse practitioners. Pediatric care providers are defined as pediatricians, family practitioners, and certified pediatric nurse practitioners. The law also specifies that inpatient or outpatient hospital services or other institutional services should not be counted in measuring provider participation.

The requirement to count only individual practitioners enrolled in the Medicaid program means that those practicing in settings such as community and migrant health centers, local health departments, or outpatient hospital clinics may be undercounted. In these instances, an organization rather than an individual practitioner generally bills Medicaid. Consequently, practitioners working in these settings often are not enrolled in the Medicaid program and are not counted as Medicaid providers even though a substantial proportion of the patients they see may have Medicaid coverage.

In particular, mid-level practitioners are likely to be undercounted because they tend to practice in clinic settings rather than in private offices. A 1993 report on Medicaid provider participation in North Carolina notes that certified nurse midwives practicing in the state usually are employees of hospitals or health department clinics. Because they do not submit their own claims, their participation in Medicaid cannot be measured through analyses of claims data.

The North Carolina report also demonstrates why it is essential to measure the care provided by professionals who practice in settings other than private offices. Data prepared by the North Carolina State Center for Health Statistics show that in 1991,

only 28 percent of pregnant women with Medicaid coverage received prenatal care through office-based physician practices. Three other important delivery systems for prenatal care were identified: county-based public health clinics, community and migrant health centers, and hospital-based clinics.

Furthermore, the data indicate that with Medicaid expansions, the volume of patients seen at health clinics has increased dramatically in the last few years. From 1988 to 1991, the number of women receiving prenatal care from health department clinics increased by almost 90 percent, from 12,314 to 23,221. Claims for those patients may not show the name of the individual practitioner who provided care, though the women did receive Medicaid-covered prenatal care.

Accounting for Geographic Differences. State Medicaid programs must report information on the availability of providers on a county or other appropriate substate basis. Yet such information is not always available.

A 1992 study conducted by the Missouri State Center for Health Statistics took a different approach to measuring access to care in particular areas of the state. Rather than examining where obstetrical providers practice, it examined where women with Medicaid coverage receive care. The study authors reasoned that if all women have equal access to obstetrical providers—and therefore to all hospitals where the providers deliver—then for any county in the state, the likelihood of a woman using the nearest hospital with obstetrical services should be the same regardless of Medicaid status.

Data from 1990 birth certificate and Medicaid records were linked to determine whether Medicaid status is related to the county of delivery. Both the county of residence and county of delivery were examined for Medicaid and non-Medicaid women. The study shows that in 11 of 115 counties, women with Medicaid coverage were significantly less likely to deliver near their home than were non-Medicaid mothers. In ten of the counties, local physicians who provide obstetrical care do not participate in Medicaid or accept so few Medicaid mothers that a disproportionate number must travel to another county to deliver their babies.

The 1991 report, *The Status of Maternity Care in Oregon: A Descriptive Study*, also contains county-specific data on the capacity of hospitals to provide obstetrical care to residents. By comparing the number of hospital deliveries with the number of resident births, the report assessed the capacity of communities to provide care for women where they live. The report did not include information on the women's Medicaid status, though that factor could be included in other analyses. The report did identify areas of the state where women must travel considerable distances to reach the hospitals where they deliver.

Summary

States often use multiple data sources to determine the number of obstetrical and pediatric providers available to serve pregnant women and children. However, all of these data sources have limitations that prevent states from obtaining an accurate count of the number of providers. Several states have responded to these limitations by developing their own state databases and surveys. Many of these methods can be useful in responding to program-specific mandates to report on provider availability.

In addition, in collaboration with other state programs, Medicaid agencies often are involved in efforts to measure provider availability as a critical first step in improving provider participation. Ensuring an adequate number of providers to serve the growing number of pregnant women and children made eligible for Medicaid through recent eligibility expansions has been an ongoing concern of many states. States such as North Carolina and Missouri have initiated collaborative efforts among multiple state agencies to recruit obstetrical and pediatric providers to the Medicaid program. For example, the North Carolina Office of Rural Health and Resource Development actively recruits primary care practitioners to work in particular areas of the state. In cooperation with Medicaid and several physician organizations, the office operates an ongoing campaign to recruit primary care physicians in the state who either do not participate or rarely participate in the Medicaid program.

The bureau of primary care in the Missouri Department of Health not only collects and analyzes data on the availability of health care providers in the state, but also plays an important role in recruiting practitioners to provide health care services for women and children enrolled in Medicaid or the Maternal and Child Health program. Initially, the bureau was asked to recruit case managers for high-risk pregnant women and children enrolled in Medicaid. As bureau staff attempted to enroll case managers, they also identified the need for specific types of practitioners in different parts of the state.

Staff located in four areas of the state now work to recruit a variety of professionals. For example, the bureau works with private practitioners and their office staff to ease Medicaid enrollment and billing procedures. The bureau also recruits special service providers, including physical therapists, occupational therapists, and speech therapists, to work with children with special health care needs throughout the state.

Initiatives such as these demonstrate that information collected on the number of health care providers can be used for a variety of purposes. Data collected on the availability of health providers can be used to respond to the reporting requirements of the Maternal and Child Health and Medicaid programs, but the information also can be a valuable tool in state-based provider recruitment efforts. Because many state programs are involved in efforts to document the availability of health care practitioners, there are many opportunities for officials to collaborate to collect, analyze, and use data on provider availability.

4. Measuring the Use of Health Care Services by Pregnant Women

Measuring the use of health care services among pregnant women is relatively easy compared with measuring such use among other populations. One reason is information is available consistently in all states. Birth certificates include data indicating when prenatal care was initiated and how many prenatal care visits were made. Although such data are typically self-reported, researchers have found the birth certificate to be the most effective and consistent tool for measuring prenatal care service utilization. For example, a recent study conducted in North Carolina found an 82 percent rate of agreement between the number of prenatal care visits recorded on birth certificates and the number reported in corresponding maternal hospital medical records.[9] Established standards for prenatal care also help. The adequacy of care can be determined by comparing the data on birth certificates with the standards of care.

Because data are available for the vast majority of births in the state, comparisons among subpopulations are possible. For example, the health care utilization of different racial and ethnic groups can be examined. Such analyses are done on the federal level by the National Center for Health Statistics using data submitted by states. However, states can conduct more timely and detailed analyses.

A number of states compare the use of prenatal care services by women with Medicaid coverage with that of the rest of the population. Some analyze women's participation in other programs, such as the Special Supplemental Food Program for Women, Infants, and Children (WIC). Still other states examine the use of prenatal care services by women living in different areas of the state.

Program-Related Utilization Data

Many of the data collection and analysis efforts that provide information on birth outcomes and the use of prenatal care are tied to expansions in the Medicaid program. As states developed initiatives to make Medicaid coverage available to more low-income women and to provide an enhanced package of prenatal services, some states designed databases to serve as program monitoring and evaluation tools. Other states use existing data sources to assess service utilization.

Although there are no specific requirements for Medicaid to produce or submit information on the use of prenatal care services, such data can help determine whether women have access to care. The data also show whether programs designed to improve pregnancy outcomes are effective. Since the Medicaid expansions, analyses in a number of states show a positive trend in the proportion of women who begin care early and receive needed services throughout pregnancy.

State MCH programs do have a reporting requirement related to the utilization of services by pregnant women. On an annual basis, they must track the proportion of

women in the state who do not receive prenatal care during the first trimester of pregnancy. MCH programs also use data about prenatal care to develop their needs assessment plans.

State Efforts to Measure the Utilization of Perinatal Services

A prominent feature of many state initiatives to improve pregnancy outcomes is collaboration among Medicaid and Maternal and Child Health programs to ensure that pregnant women obtain the services they need. The primary responsibility for monitoring or evaluating the initiatives may lie with either of these programs or with the office of vital statistics.

Kentucky. The division of maternal and child health in the Kentucky Department for Health Services combines data from several sources to examine the use of prenatal care in the state (see Utilization of Prenatal Care in Kentucky). The most detailed and timely information on the use of such services is available for women who receive prenatal care at local health departments. All local health departments have an online automated service reporting system that enables the division to obtain statewide information. Data from local health departments also can be linked to the state vital statistics database.

The division matches paid Medicaid claims for all newborns—regardless of where they received care—and birth certificates. This enables the division to compare records on the use of prenatal health care services and birth and death outcomes for many groups of women. Comparisons can be made among women with Medicaid coverage who receive care in a private physician's office, women with Medicaid coverage served in local health departments, women without Medicaid coverage served by local health departments, and all other women receiving care in private physicians' offices.

Missouri. Different data sources and approaches are used in Missouri to provide information about access to prenatal care.

UTILIZATION OF PRENATAL CARE IN KENTUCKY

An examination of prenatal care use in Kentucky shows that in 1991, women with Medicaid coverage were less likely to begin care early in pregnancy. About 67 percent of pregnant women enrolled in Medicaid began care early compared with about 86 percent of other women.

Women with Medicaid coverage who were served by the private sector, but who did not receive additional care through the local health department, had a higher rate of infant mortality than did women with Medicaid coverage who received care from the health department. Physician providers are generally the same for both groups of women.

In 1991 the overall infant mortality rate was 8.8 per 1,000 live births. For women with Medicaid coverage seen in the private sector, the infant mortality rate was 11.6 per 1,000 live births. The rate was lower—8.3 per 1,000 live births—for women with Medicaid coverage seen through the local health department. For women without Medicaid coverage seen by the local health department, the infant mortality rate was 5.1 per 1,000 live births.

Linkage of Data Sets. Missouri was one of the first states to link vital statistics records and records from programs such as Medicaid and WIC to create data sets that can be used for evaluation purposes.

Past studies conducted by the Missouri State Center for Health Statistics demonstrate that prenatal participation in WIC results in substantial savings for Medicaid. This is because babies born to women who participated in the WIC program are healthier and require less medical care. The studies also provide information on the population's use of prenatal care. The Missouri studies were the basis for a federal WIC/Medicaid evaluation with similar findings. Five states—Florida, Minnesota, North Carolina, South Carolina, and Texas—participated in the federal study.

The current practice in Missouri is to match birth certificates with paid claims data and other information from Medicaid records on an annual basis. This matched file is used to provide information on the time of entry into prenatal care. In 1992 the file was used as the basis for a study on the availability of prenatal care in different parts of the state.

Client-Based Data Systems. Records from the WIC program are not routinely linked with Medicaid and vital statistics records. However, as of October 1993, the WIC program implemented a data system that enables local agencies to keep computerized client records.

Maternal and Child Health programs in Missouri also are establishing a client-based data system. The bureau of maternal and child health plans to examine clients' use of services and health outcomes. An advantage of the system is current rather than retrospective program data will be available.

WIC, Medicaid, and some other health-related programs will use the same client identification numbering system; numbers will be unique to clients, not to programs. As a result, future record matching and evaluation efforts should be greatly simplified.

Program Data from Birth Certificates. Since 1989 Missouri has had the capacity to use birth certificates as a single source of information on birth outcomes, use of prenatal care services, and participation in various assistance programs. The birth certificates indicate whether women participated in the Medicaid, WIC, or Food Stamp programs during pregnancy.

North Carolina. North Carolina is another state that annually links data from birth certificates and the Medicaid program. Also possible are linkages to records from the WIC program and from the State Health Services Information System, which tracks services provided to women and children through the health department. The ability to link these records and program records has enabled several evaluations demonstrating that specific efforts to improve prenatal care services have been effective in the state.

Data from Care Coordinators' Records. Pregnant women with Medicaid coverage in North Carolina receive services through the state's Baby Love program. Established in 1987, the program was developed and implemented by the division of medical assistance (the state's Medicaid program), the division of maternal and child health, and the office of rural health and resource development. It expanded Medicaid eligibility for pregnant women and enhanced the services available to them. A key element of the program is the use of maternity care coordinators, or case managers, who work with pregnant women to ensure they receive needed care.

Detailed records are available for every woman who receives maternity care coordination services. Care coordinators record clients' need for and use of services and note whether the needs have been met. Approximately 60 percent of the pregnant women in North Carolina who have Medicaid coverage receive care coordination services.

Records kept by care coordinators are an important source of data on the use of health care services (see Examining the Impact of Program Reforms in North Carolina). Such information may be more reliable than prenatal care data from birth certificates because visits generally are recorded as they occur, while the information on birth certificates is based on recall. Moreover, the data can be used to identify problems in a timely fashion and steps can be taken to correct them.

Oregon. Over the past few years, there have been many efforts to examine and improve the status of maternity care in Oregon.

Comprehensive Study of Access to Maternity Care. The 1991 report, *The Status of Maternity Care in Oregon: A Descriptive Study*, combined vital statistics and manpower data, as well as the results of a survey of health care practitioners, to describe access to maternity care in each region of the state and to identify areas or populations that may be at particular risk (see Oregon's Study on Access to Maternity Care).

Program Data from Birth Certificates. Oregon is one of a few states that can use birth certificates alone to analyze the use of prenatal care services by Medicaid-eligible women and other women. A question on the Oregon birth certificate asks about the source of payment for care. Women with Medicaid coverage are identified based on their answers. Another question asks whether women participated in the WIC program during pregnancy. With the inclusion of these two questions, it is possible for the office of vital statistics to conduct some analyses on the relationship between program participation and the use of prenatal care services without having to match vital statistics and program records.

Tables on the use of prenatal care and birth outcomes are routinely generated by the office of vital statistics. They contain information on Medicaid beneficiaries and other women. The information is featured in an annual vital statistics report published by the department of health.

Washington. The state of Washington also has done extensive work to measure access to care for pregnant women. Much of the early activity occurred in response to

EXAMINING THE IMPACT OF PROGRAM REFORMS IN NORTH CAROLINA

A 1991 study used care coordination records and data from birth certificates to evaluate the impact of the maternity care coordination element of the Baby Love program in North Carolina. The study found that women with Medicaid coverage who received care coordination services had better birth outcomes than did a similar group of women who were covered by Medicaid but who did not receive the services. It also suggests that care coordination can be effective in reducing medical costs for newborns.

OREGON'S STUDY ON ACCESS TO MATERNITY CARE

In 1991 Oregon published the report, The Status of Maternity Care in Oregon: A Descriptive Study. *The first part of the study focused on the characteristics of pregnant women in the state and their infants. The study ranked the counties in the state using rates of inadequate prenatal care. Several important analyses accompanied the ranking. Comparisons of prenatal care rates with the age, educational level, and ethnicity of women showed that the strongest predictor of whether women receive adequate care is ethnicity. The study found no relationship between the availability of providers in counties and the adequacy of prenatal care.*

The study noted an ample pool of willing providers in the state but identified problems in their distribution and availability to certain populations. It also found that all areas of the state have some access problems and concluded that it is necessary to examine a number of variables, besides provider availability, to determine how access can be improved.

a mandate in the state's Maternity Care Access Act of 1989. The work on measuring access continues as the state plans for health care reform.

First Steps Database. The First Steps program expanded Medicaid eligibility for pregnant women to 185 percent of the federal poverty level. It increased reimbursement rates for practitioners who provide obstetrical care, enhanced the range of prenatal care services available to pregnant women with Medicaid coverage, and made provisions for the collection and analysis of program data.

The First Steps database serves as a program monitoring tool for agencies involved in the implementation of the program. It is also used as a research tool to evaluate the program (see Washington's First Steps Program Improves Access to Early Prenatal Care). The system links records from the Medicaid program in the department of social and health services and vital records from the department of health. Records from a variety of programs of the health department's Parent-Child Health Services also can be linked. The database thus includes measures of pregnancy outcomes, descriptions of maternity care services, and background information on mothers' health and sociodemographic status. Using the database, both the Medicaid and non-Medicaid populations can be described.

The database provides information on the use of prenatal care by different racial groups and by women living in different parts of the state. It also provides more detailed information on the use of particular services. One report shows the proportion of pregnant women receiving certain clinical preventive services (e.g., hemoglobin or hematocrit tests, tests for hepatitis B, urine cultures, and HIV screens) during different periods. This detailed information is useful in assessing the quality as well as the quantity of care women receive.

Washington's First Steps program is jointly administered by two state agencies, the department of social and health services and the department of health. Components include obstetrical care, maternity support services, maternity care management, and child birth education. The database can be used to track the provision of these services in each county and to determine whether these services have an impact on birth outcomes.

WASHINGTON'S FIRST STEPS PROGRAM IMPROVES ACCESS TO EARLY PRENATAL CARE

Washington's First Step program includes an expansion of Medicaid eligibility for pregnant women and an enhancement to the perinatal benefits package. A database to monitor the program's implementation and to serve as an evaluation tool was created when the program was established. Reports generated by the database show the proportion of women who received adequate prenatal care. They document a positive trend for the Medicaid population. For example, the proportion of women with Medicaid coverage who received early prenatal care increased from 82.9 percent in early 1989 to 85.5 percent in late 1990. At the same time, the proportion receiving late or no prenatal care decreased from 11.6 percent to 8.4 percent.

Identification of Maternity Care Access Distressed Areas. The 1989 act also required the Washington Medicaid agency to develop a methodology to identify "maternity care access distressed areas." Five factors were specified in the legislation, including measures of health care utilization, health status, and provider availability. Specifically, the Medicaid agency was asked to use program records and data from the office of vital statistics to look at:

- the percentage of Medicaid births in a county;
- the percentage of Medicaid mothers receiving inadequate prenatal care;
- the percentage of Medicaid mothers with low-birthweight babies; and
- a ratio showing the number of Medicaid mothers who leave their county of residence for maternity care.

Using these criteria, the Medicaid agency concluded that nineteen of the thirty-nine counties in the state could be identified as maternity distressed areas. These counties are eligible to receive state assistance to improve the provision of prenatal care for county residents.

Summary

States are interested in determining whether pregnant women receive health care services. Such information is useful not only in helping states assess access to obstetrical services, but can be instrumental in helping them determine the impact of program reforms. Although state Maternal and Child Health programs must report on the utilization of prenatal care, most state initiatives to measure pregnant women's utilization of health services have been collaborative efforts among multiple state agencies. This has enhanced states' capacity to answer questions about access to care and, in some cases, about the quality of care provided. Moreover, many states have developed their system as an ongoing evaluation tool so they can more systematically assess the impact of program changes.

5. Measuring the Use of Health Care Services by Children

In contrast to the utilization of prenatal care received by women, little information is available on a consistent basis about children's use of health care services. In some states, data on the receipt of a limited number of preventive health services are collected routinely. For the most part, it is difficult to characterize children's use of services.

Similar to the recommendations of care for pregnant women, accepted standards for the delivery of preventive (i.e., well-child) care exist and can be used to measure adequacy of care when data are collected. For example, the American Academy of Pediatrics has established a schedule for periodic, age-appropriate preventive care. Specific studies on the effectiveness of preventive care also provide information on which standards can be based. However, no equivalent set of recommendations exists for the treatment of health problems diagnosed during well-child exams.

National surveys, such as the National Health Interview Survey, provide some information on the number of visits children make to practitioners annually. Yet without information about the health status of the children, it is not possible to determine whether children are receiving adequate care. Few data on the health status of children are collected routinely.

Despite these difficulties, some states are developing systems to measure health care services provided to children. Most of the systems measure the care received by children enrolled in Medicaid. However, in some instances, the systems have been expanded to include information on other children in the state.

Program-Related Utilization Data

Most of the information available on children's use of health care services comes from Medicaid program records. One important measure of whether children enrolled in Medicaid have access to care is whether they are receiving benefits through the Early and Periodic Screening, Diagnostic, and Treatment program. Although all Medicaid-eligible children are entitled to EPSDT benefits, historically a substantial number of children enrolled in Medicaid have not participated in the program.

In 1989 Congress became concerned about the low participation rates in EPSDT and included provisions in the Omnibus Budget Reconciliation Act to strengthen the program. Under the law, the secretary of health and human services is required to set annual participation goals for each state. In 1990 the secretary set a goal that by 1995, EPSDT should be screening 80 percent of the eligible children. Each year states must close one-fifth of the gap between their 1990 screening level and the 80 percent goal.

As a result of this legislation, states are now required to calculate screening rates based on the number of children eligible for EPSDT and the number who received screening visits. Consequently, some information on the use of EPSDT services is available in every state.[10]

One technical problem associated with obtaining an accurate count of the number of screenings is services provided to children with Medicaid coverage may not be properly recorded. Visits identified as EPSDT visits are recorded on an EPSDT data system, while those that are not specially coded or billed as EPSDT visits do not get recorded even though the visit is for an EPSDT-like service. Children actually may be receiving screening services, but because of improper coding a record of the services does not appear in the EPSDT system.

To help ensure that there is a record of all services children receive and to ease the administrative burden for health care providers, some states have streamlined their EPSDT forms. A 1992 survey conducted by the National Governors' Association shows that about fifteen states had providers submit screening and claims information on a single form. To further simplify billing procedures, other states had stopped using distinct EPSDT forms altogether.[11]

Screening rates provide a very basic measure of whether children are receiving care. They only indicate whether children covered by Medicaid are receiving preventive care. The rates do not provide information on diagnoses or followup treatments. Because all states are required to collect and submit these data, the rates still are an important existing source of information. In some states, data on EPSDT screening rates represent the starting point for a more sophisticated system to track children's use of health care services.

The Maternal and Child Health program often plays a role in the administration of the EPSDT program. In a number of states, the MCH program is involved in generating and analyzing data related to the use of health care services by children in the EPSDT program. This program also reports regularly on the types of services provided to children by local agencies receiving MCH program funds. In preparing their needs assessment plans, state MCH programs estimate the needs of all children in the state for specific services. In addition, Maternal and Child Health programs are required to indicate the proportion of children in the state receiving appropriate immunizations by their second birthday.

State Efforts to Measure the Utilization of Children's Services

States use a variety of approaches to collect and analyze data on the use of health care services by children. Some approaches include measures designed specifically for one group of children (e.g., those receiving EPSDT services), while others include measures that provide information on all children in the state.

Florida. One approach that can be used to determine whether children have adequate access to care is to review Medicaid claims for visits to hospital emergency rooms. Emergency rooms are not appropriate settings for the delivery of primary care, but many young patients are seen there. In some cases, this occurs because families unfamiliar with the health care system seek care in an inappropriate setting. However,

in other cases, the emergency room is the last resort when no primary care provider is available. In either case, a visit to the emergency room for primary care services indicates an access problem.

In Florida an EPSDT "treatment history report" identifies all paid claims and services provided since the child's last EPSDT screening for a six-month period. The report provides important information on the type of primary care services children are receiving. It also can be used to track emergency room visits made by children participating in the EPSDT program. If the visits are for primary care services, EPSDT counselors are able to contact the child's family and work with the family to identify appropriate practitioners in the community who can consistently provide pediatric care.

Kentucky. In Kentucky detailed records of health care service use are available for children who receive care at county health departments. In fiscal 1993, approximately 45 percent of children ages two to five received services at local health departments. An online data system can be accessed to provide information on each of the services children receive. For example, medical records for two-year-olds can be examined to determine whether they received recommended immunizations or other services. The data also can be used to assess the degree of integration of health department services. For example, it is possible to determine whether WIC, immunization, and well-child care were provided in the same visit to the health department. Data on the use of services are compiled quarterly and may be used to monitor the provision of preventive health care services, including EPSDT for Medicaid-eligible children.

The data system also provides important information for the needs assessment prepared by the Maternal and Child Health program. The MCH program is able to estimate the number of children in need of specific services, such as immunizations, preventive health care, and screening and treatment for lead poisoning.

North Carolina. North Carolina is in the process of restructuring its EPSDT program. Similar to the state's successful perinatal program (Baby Love), the new program, Health Check, is a cooperative effort involving the division of medical assistance, the division of maternal and child health, and the office of rural health and resource development. Health Check is intended to improve the use of preventive care services by children who are eligible for Medicaid.

A key component of the program is a statewide network of care coordinators who will assist families in obtaining comprehensive health care services for their children. The program will feature an outreach and education campaign designed to promote the importance of regular preventive care. The campaign also will provide information on how families can receive care.

A new data system has been designed for the program. It will include information on screening visits and on diagnostic and treatment services. The system will present a true picture of the patterns of service use by children enrolled in Medicaid. Data on measures such as the immunization status of children will be readily available. The new system also will enable program officials to determine whether children are referred to services they need and whether those services are received. Such an approach can provide information about the adequacy as well as the quantity of care children obtain.

The database will be used to evaluate the Health Check program. Children who participate in the program will be compared with those who do not participate to determine whether there are differences in how early conditions are detected and in how successfully they are treated.

Missouri. The Missouri Medicaid program is developing a system to generate reports that link claims for EPSDT screening visits and claims for other services children receive. It is anticipated that this linkage will provide policymakers in the state with a complete profile of the health care services that children enrolled in Medicaid receive.

When claims are linked, the Medicaid office plans to identify counties with the lowest screening rates. Information on the availability of health care providers in those areas also will be examined. Using the two data sets, the Medicaid office will target areas in the state that require assistance to improve access to care for children.

The Medicaid office also plans to use the data to assess the extent to which appropriate referrals are made and appropriate treatment is provided when problems are diagnosed during screening visits. Similarly, the data will be examined to determine whether children treated for health care problems were screened. State officials expect to identify model counties where comprehensive pediatric care is provided to Medicaid enrollees and to identify counties that require some assistance.

Rhode Island. The Rhode Island Children's Access Program (RICAP) is designed to promote comprehensive prevention and early intervention for children. It is administered by the division of family health in the department of health.

A computer database for RICAP serves as a central registry for all births in the state. It contains background information on children's risks and on the prenatal care each child's mother received. The system indicates the type of insurance coverage each child has and identifies the child's primary health care provider.

The RICAP system is used to track a series of preventive health services for children. Services such as newborn screening, testing for lead poisoning, immunizations, WIC nutrition services, screening for metabolic disorders, hearing testing, and early intervention services are tracked. Because children with Medicaid coverage are identified, it is possible to compare the care of children covered by Medicaid with the care received by children not eligible for Medicaid.

An important feature of RICAP is health care providers, including practitioners in emergency rooms, will have access to some of the information in the system and thus some background on the children to whom they provide care. They can also add information so the system will fully reflect the care children receive. The link with emergency rooms is particularly important because emergency room visits may be the first encounter with the health care system for some families. Hospitals are able to identify children not registered in the system and refer them for any care they need.

The system is neither a detailed management information system nor a clinical record. It is an information base that can be used by the health department in Rhode Island to determine whether children have access to preventive services. Information from the database allows RICAP to target outreach activities to families in need of services.

South Carolina. Efforts are underway in South Carolina to link existing databases or develop new ones to track children's use of health care services.

New EPSDT Information System. A new computerized, client-based system enables local EPSDT eligibility workers in the department of social services and local EPSDT outreach nurses from the department of health and environmental control to enter information on the care children need and the services they receive. The new system also links EPSDT records and other Medicaid claims to provide a complete record of Medicaid-covered services provided to children. This provides EPSDT staff with historical information on service use. Program workers can determine what services children have had and what services they need.

The new EPSDT system can also play a critical role in program monitoring. For example, it is possible to identify particular children who do not receive the screening or treatment services they need. It is also possible to identify areas of the state where large proportions of children are not receiving the care they need. Data from the system may show that there is a need for additional EPSDT caseworkers in those areas because caseloads are very large. Alternatively, the data may show that it is difficult to make referrals because of a shortage of providers in the area. In some cases, the system will indicate that referrals were made, but appointments were not kept. The system may also identify a need for more outreach nurses. Based on this information, program administrators can allocate resources more effectively to promote access to services for children.

Child Health Tracking System. The South Carolina Division of Children's Health has developed a comprehensive tracking system for all children from birth to age five who receive services from the department of health and environmental control. The system links birth certificate and health department records to provide a profile of children who receive services from the health department. In 1992 the health department served three-quarters of all infants in the state. Eventually, the system will be online, interactive, and accessible to health department personnel at the county level.

Because children often participate in more than one program and receive care from many practitioners, the health department plans to share patient data with other primary care centers, such as community health centers. There are also plans to link the child health database to the EPSDT information system to provide more complete information on each child. With all program records linked, the system will contain extensive information on children's use of services. The health department will be able to identify children in need of health services. The tracking system should help ensure that children receive more comprehensive, coordinated care.

Immunization Database. To provide more complete information on one measure—the immunization status of children in South Carolina—the division of children's health has already initiated agreements with other programs so data from several sources can be combined. On a monthly basis, the health department will receive a tape from the Medicaid program containing computerized records of all immunization services provided to children with Medicaid coverage. Data on the immunization status of other children will be collected from primary care centers in the state. By merging these records, officials anticipate that accurate information on the immunization status of approximately 70 percent of the children in the state will be

available. If data from private pediatric practitioners were incorporated, the database would contain information on all children in the state.

Washington. An initiative in Washington is identifying areas of the state where children, including those with Medicaid coverage, have problems getting dental care. The effort is particularly noteworthy because it involves collaboration among several state programs and because it uses several measures to assess access to care.

The Medicaid program has compiled information on the number of Medicaid beneficiaries eligible for care and the number receiving care in each county. These numbers are compared with a list of dental care providers practicing in each county, both those who do and do not provide services for Medicaid patients.

At the same time, researchers at the University of Washington and staff from the health department's office of parent-child services are collecting and analyzing data on the dental health status of children in the state. By combining data on the need for dental services, the use of dental care services, and the availability of dental care providers in each county, program officials expect to be able to identify areas of the state where children lack access to dental care services and areas where access is particularly problematic for children with Medicaid coverage.

Summary

Although there is no consistent source of data on health care utilization of children, some states have made significant strides in developing databases to track children's receipt of services. Most of these initiatives rely on information collected by a specific program and for a specific group of children. However, a few states are developing systems to measure the utilization of selected services for all children in the state.

6. Identifying Innovative Strategies Used in Current State Initiatives

Measures of access to care for the low-income population provide important information on whether women and children are receiving appropriate health care services. Access measures also serve to ensure that limited program resources are being used as effectively as possible. With information available on who is not receiving services, resources can be directed to populations most in need.

In a reformed health care system, it will be critical to collect and analyze data on access to care. If health care coverage is extended to the millions of people who currently lack insurance, their chances of receiving health care services will be greatly improved. However, access to care will not be guaranteed. To ensure that the most vulnerable populations receive care, states must be able to determine who is receiving needed health care services.

Both the Medicaid and Maternal and Child Health programs are required to provide information on access to obstetrical and pediatric services within the state. As states respond to federal requirements to document the availability of care for low-income populations, many are also trying to develop measures of access that can be used as the financing and delivery of health care changes.

At present, no single state has a comprehensive system to measure access to care for pregnant women and children. Some states have developed effective methods to measure the availability of health care providers. In many states, data on the use of prenatal care and on birth outcomes are examined to help determine whether pregnant women receive adequate care. Most states are not as far along in terms of measuring access to care for children, but there is some activity and a strong sentiment that this is an important area for future work. A few states are trying to measure the quality of care women and children receive. A number of steps states can take to develop effective systems to measure access to care for pregnant women and children have been identified (see Steps States Can Take to Measure Access to Care). These are described below.

Common Features of State Efforts

As more and more states begin to develop new efforts to measure access to health care for low-income women and children, they may want to incorporate features of current state initiatives.

Assessing the Multiple Factors That Influence Access. Information on the extent of health coverage or provider availability indicates whether a population is likely to receive health care services. Utilization data show whether individuals actually receive care. If utilization data are compared with standards for care, the adequacy of

STEPS STATES CAN TAKE TO MEASURE ACCESS TO CARE

- Assess the multiple factors that influence access.
- Use population-based rather than program-based measures.
- Involve many programs in efforts to measure access.
- Base access measures on current rather than retrospective data.
- Establish health professions databases.
- Use data collected on prenatal care services.
- Develop methods to measure access to care for children.

care can be judged. Health status measures also can be used to determine whether care is appropriate. Each measure provides limited information. When these measures are combined, it is likely that the access problems, as well as the causes of these problems, can be identified.

Utilizing Population-Based Rather Than Program-Based Measures. Many low-income pregnant women and children receive services from a number of programs. Although it is important to collect data to monitor the operations of specific programs, such data may not fully reflect a population's use of health care services. For example, an examination of Medicaid records alone may not account for immunizations or other services children receive at public health clinics, unless the clinics bill Medicaid. Access measures that are population-based, rather than program-based, have the potential to capture the overlap in program services. Such measures can also help identify women and children who need services but who do not participate in available programs.

Some of the best population-based measures have been developed as an important feature of state health care reform. In these states, there is a commitment to providing health care services for pregnant women and children. There is also a need to ensure that limited state resources are used to provide services in the most efficient and effective manner.

The most successful arrangements are those that produce a single data set for the state but enable easy access to specific information the programs need for planning and reporting. Such a well-integrated system generally does not require a great deal of day-to-day interaction among state programs, but it does facilitate communication among programs. Often, the collaboration gives rise to other efforts.

Involving Many Programs in Efforts to Measure Access. Collaborative efforts to measure access enable states to pool expertise and resources from different programs. They also eliminate duplicative efforts. For example, states that rely on one office to collect information on the availability of health care providers can ensure that consistent information is available for all programs in the state. Similarly, states that routinely match program records and vital statistics records can provide all programs serving pregnant women with detailed information on access to care.

When programs share data, they are likely to work together to solve identified problems. In states where the data show that a group of women is not receiving prenatal care, Medicaid and MCH programs have pooled resources to conduct outreach efforts. Where gaps in the availability of providers have been identified, the Medicaid program has worked with other state programs such as the office of rural health to recruit practitioners who will care for the low-income population.

Basing Access Measures on Current Rather Than Retrospective Data. Many states are establishing a population-based data system that provides timely information on the use of health care services. Such systems are, or will soon be, linked to public health clinics and other sites where low-income women and children receive care. One of their major advantages is they are geared to measuring and solving access problems. Program staff and practitioners can respond to problems as they are identified. For example, some child health tracking systems have well-defined outreach components. There are established procedures to contact families and arrange for children to receive care when the need for services is identified.

Opportunities to Develop Systems to Measure Access

As states establish systems to measure access to health care for pregnant women and children, they are concerned about responding to federal program requirements. However, they must address the state's own planning and resource allocation needs. Moreover, as health care reform continues to be pursued at the national and state levels, state health care programs must develop measurement approaches that can respond to changes in health care delivery and financing.

To accomplish these goals, states can take some practical steps to improve the methods used to collect and analyze data on provider availability, including establishing health professions databases, using data collected on prenatal care services, and developing methods to measure access to care for children. However, states may want to focus their efforts on developing population-based measures of access to care.

Establishing Health Professions Databases. Most of the existing requirements related to measuring access to care are based on measures of provider availability. Medicaid and Maternal and Child Health programs are required to document the availability of practitioners in the state. In administering cooperative agreements funded by the Bureau of Primary Health Care, states must prepare primary care access plans that include information on the availability of primary care practitioners. States must also have information on the availability of providers in order to make health professional shortage area designations.

To respond to these varied requirements, states such as Minnesota and Washington have established health professions databases. These states require health professionals to complete a survey when they apply to renew their licenses. Their responses are used to develop a single, sufficiently detailed data set that can respond to the reporting needs of state programs and can be used for planning purposes in the state.

The development of such a database may require a substantial initial investment. However, because its purpose is to provide necessary information to a number of programs, program funds may be pooled to establish and maintain the database.

Involving the different programs in the design of the database can help ensure that the practical information each program requires will be available.

States may also want to develop health facilities databases so information is available on individual practitioners and the settings where they practice. The database could provide information on institutions' capacity to provide primary care and specialized medical services.

Using Data Collected on Prenatal Care Services. Despite some limitations, data on the receipt of prenatal care are readily available from birth certificates. If the data are analyzed in a timely fashion, they can provide information on who has access to health care services. When linked with program records, the data can be used to evaluate program effectiveness.

A number of states have established procedures to periodically link program records and vital statistics records. In some states where it is not feasible to link records, a few questions on program participation have been added to the birth certificate. This enables state officials to identify women participating in various programs and to conduct some simple analyses on the impact of program services.

Developing Methods to Measure Access to Care for Children. Officials in some states note that though they have a great deal of information on children's use of health care services, the data are difficult to interpret. One reason is the data are generally program-based and provide limited information. A few states are trying to produce more complete data sets that fully reflect the care children receive.

Some states, such as Rhode Island and South Carolina, have established systems that use birth certificates to identify children and track the services they receive. Other states profile children's use of services by linking existing data sets from Medicaid, Maternal and Child Health, and related programs.

These efforts are promising because they produce population-based information on the use of services. Low-income children are likely to participate in a number of different programs. Moreover, they may move in and out of programs as families' financial circumstances change. If population-based records are maintained, it is possible to track children's use of services even when they are not participating in particular programs.

Another reason data on children's use of health care services are difficult to interpret is established standards for appropriate pediatric care are limited to preventive care. At a minimum, available data should be compared with standards for routine preventive care to determine whether children are receiving the basic services they need. The data also can be used to identify children who do not have a consistent source of primary care. Eventually, the comprehensive systems states develop to track services children receive will provide data that may be used to help establish broader standards for care.

Summary

At a time when there is great demand for health care services and the resources to provide them to low-income residents are limited, it is important to know whether

efforts to provide care are effective. Appropriate access to care is particularly important for pregnant women and children. If they receive preventive and primary health care services, they are less likely to need complex and costly care later in life. This review of state activities demonstrates that though states are at different stages, many are working to develop measures of access to care. Most important, the state initiatives provide many opportunities for collaboration, especially between Medicaid and Maternal and Child Health programs, in developing systems to routinely measure access to obstetrical and pediatric services.

Endnotes

1 See, for example, Teresa Chovan, Constance Thomas, Richard Merritt, and Robert McKeagney, *State Initiatives to Encourage Private Physicians to Care for the Medically Underserved* (Washington D.C.: The George Washington University, Intergovernmental Health Policy Project, December 1991).

2 The multiple issues related to assessing provider availability and, specifically, Medicaid provider participation are discussed in detail in a related National Governors' Association report, *Monitoring Medicaid Provider Participation and Access to Care*, published in 1992.

3 This information is also available through the Bureau of Health Professions, Health Resources and Services Administration, U.S. Public Health Service.

4 Association of State and Territorial Health Officials, *BHCDA Funded Cooperative Agreements for Primary Care: An Inventory of State Resources* (Washington, D.C.: Association of State and Territorial Health Officials, June 1992).

5 States are also asked to voluntarily provide any available information on other types of providers. These include public health nurses, pediatric dentists, general dentists, nutritionists, social workers, audiologists, speech therapists, occupational therapists, physical therapists, and respiratory therapists.

6 Association of Maternal and Child Health Programs, *Meeting the Challenge: A Report of the First State Program Applications for Title V as Amended by OBRA '89* (Washington, D.C.: Association of Maternal and Child Health Programs, February 1991).

7 The March 1990 issuance from the Health Care Financing Administration requires states to submit reimbursement rates for a list of obstetrical and pediatric services. States are also required to document compliance with at least one of three standards. Specifically, they must show the following.

- At least 50 percent of the relevant practitioners in an area participate in Medicaid or the practitioners participate in Medicaid at the same rate they participate in Blue Shield.
- The state's fee-for-service payment rates are at least 90 percent of private insurers' payment rates.
- The state may use any other adequate method to demonstrate adequate recipient access to providers.

The data must be presented on a county or other appropriate substate basis. HCFA currently is evaluating alternative methodologies states can use to comply with the statute.

8 Data on group practices and clinics are not included.

9 Paul A. Buescher, Karen P. Taylor, Mary H. Davis, and J. Michael Bowling, "The Quality of the New Birth Certificate Data: A Validation Study in North Carolina," *American Journal of Public Health* 83, no. 8 (August 1993).

10 Historically, the accuracy of screening rates has been questioned. States and the federal government have worked to improve the methodology used to calculate the rates. At present, rates are reported in two ways. One shows the number of screenings performed in a state relative to the number of children eligible for EPSDT services. However, these rates actually overstate the proportion of children because many children have more than one screening visit in a year's time. Ratios are also reported for the number of children who are screened relative to those who are eligible. Although this is a better measure of the proportion of the eligible population receiving care, it does not guarantee that those screened received all the services they need.

11 "State Coverage of Pregnant Women and Children, July 1992," *MCH Update* (July 1992), National Governors' Association, Washington, D.C.

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